# Deep Sea Electronics Plc

## 100 Series CONTROL MODULES

# MODEL 314 THREE ELEMENT SPEED SWITCH

## DESCRIPTION

The model 314 speed switch has been designed to monitor the speed of an engine or piece of rotating machinery by detecting the pulses from a magnetic pick-up device.

The electronics are housed in a robust "din" rail mountable case. Connections to the module are via screw terminals.

The module can be set to operate the independent relays at different speed settings. Each relay can be adjusted to operate from between 10% to 140% of the engines rated running speed.

This flexibility allows the module to be used for many different applications including Underspeed or Overspeed protection or crank disconnect facilities.

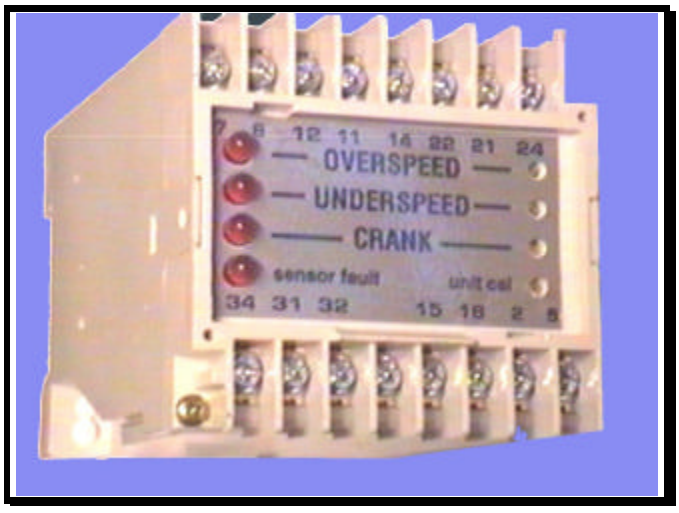
Adjustment of the trip points is via pre-set potentiometers, turning anticlockwise increases the appropriate trip point, turning clockwise decreases the appropriate trip point. The appropriate LED will be illuminated to indicate that the trip has been activated.

On application of a continuous DC supply voltage, the module will start counting pulses from the magnetic pick-up. Should these pulses exceed the pre-set RPM level then the trips will be activated and the relay contact will change state.

Applying a DC negative input to "60Hz" terminal raises the overspeed trip point. This eases the conversion of a panel from 50Hz to 60Hz.

Meter calibration is via a pre-set potentiometer, this enables the meter output to be scaled to match the optional RPM meter. Rotating the pre-set clockwise increases the meter reading.

Indication is given for 'Sensor Fault' when the module detects a fault with the magnetic pickup. The overspeed trip is also activated at this point to shutdown the engine.




## SPECIFICATION

**DC SUPPLY** :
The 314 is powered from the plant battery or from a low voltage supply (12V or 24V DC +/-20%, specify on ordering). The module is electronically stabilised and requires no internal batteries to meet this specification.
Provision is made to maintain supply to the module during "cranking dips" (0v for 20mS).
Internal protection is provided for polarisation errors.

**SENSOR INPUT :**
Magnetic Pick-up
Impedance 10Ω to 1KΩ.
Input signal range 1V to 70V AC RMS.

**TRIP LEVELS :**
10% to 140% of rated RPM.

**RELAY CONTACTS :**
10Amp @ DC supply voltage. Voltage free change-over (50V DC Max Rating).

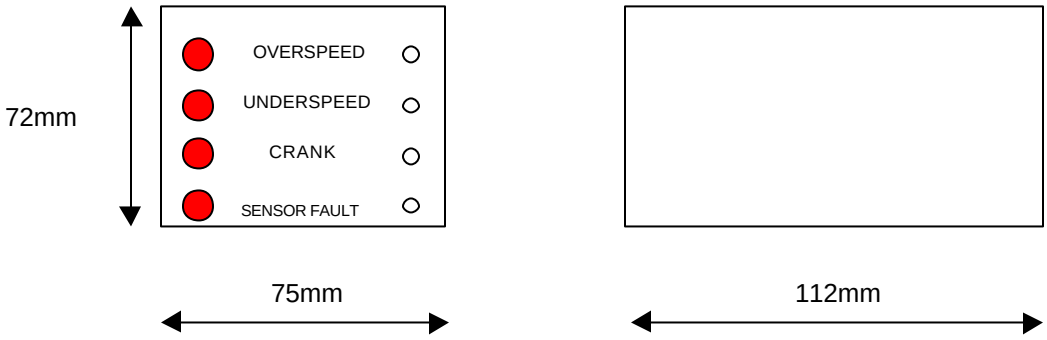
**DIMENSIONS :**
75mm x 72mm x 112mm

**OPERATING TEMPERATURE RANGE :**
-15 to +70°C

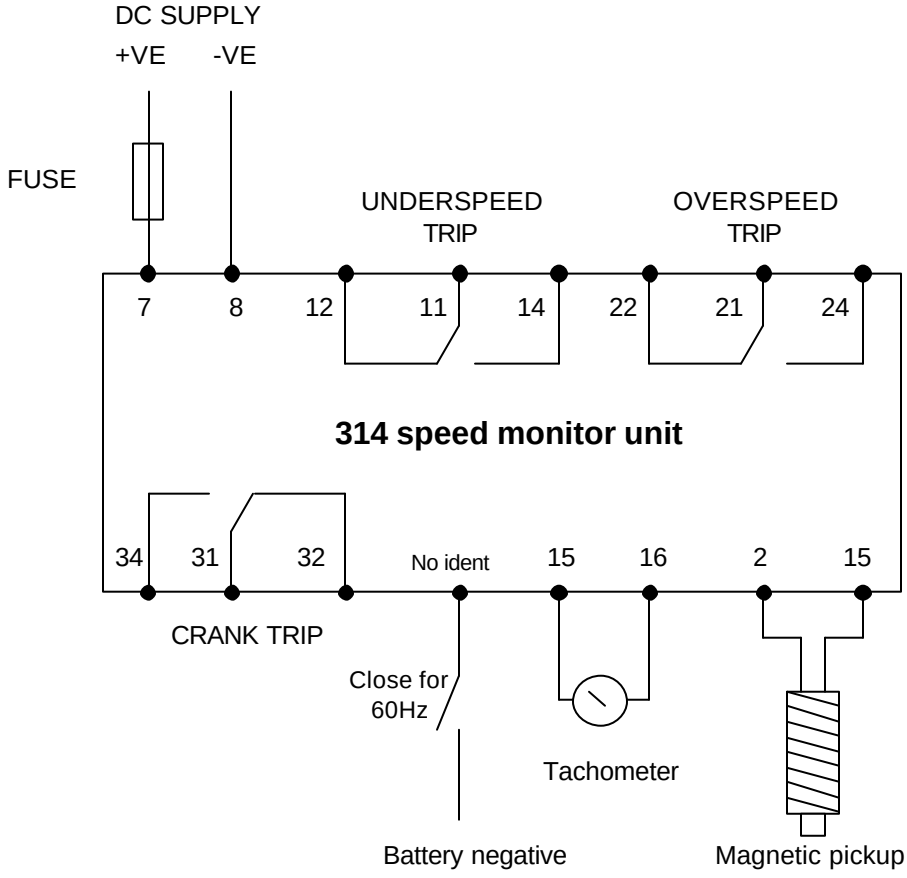
**INDICATIONS :**
'Trip' Active LED per channel.
'Sensor fault' LED.

**METER OUTPUT :**
1 milli-amp full scale deflection drive available.

# CASE DIMENSIONS




# TYPICAL CONNECTIONS





Deep Sea Electronics Plc
Mountside Park, Queen Margarets Road,
Scarborough, YO11 2RH. ENGLAND
Tel:- +44 (0)1723 377566 Fax:- +44 (0)1723 354453 E-Mail:- sales@deepseaplc.com